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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/675,598 09/26/2003 Donald T. Cronic 84333 6810

23501 7590 12/29/2006
NAVAL SURFACE WARFARE CENTER, DAHLGREN DIVISION
OFFICE OF COUNSEL, CODE XDC1
17320 DAHLGREN ROAD
DAHLGREN, VA 22448-5110

EXAMINER

BELL, BRUCE F

ART UNIT	PAPER NUMBER
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1746

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS 12/29/2006 PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/675,598

Applicant(s)

CRONCE, DONALD T.

Examiner

Bruce F. Bell

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213:

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 12-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 12-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-9, 12-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rusek et al (6,255,009) in combination with Russell et al (4,867,902).

Rusek et al disclose a system for providing a potential chemical energy for devices to perform work using hydrogen peroxide as the primary reactant. The hydrogen peroxide comprises an impellant. An impellant is a chemical which contains energy releasable by decomposition without combustion. The hydrogen peroxide powers electric and/or propulsion systems on carriers and/or serves as the primary power source and/or auxiliary equipment on other like devices. Sizes of the turbine and/or electric motor drives are proportional to the anticipated use requirement, such as the size of the carrier or moving distance of a lever arm. The invention provides for environmental conditioning such as heating elements, electricity generation and other like systems. The hydrogen peroxide based impellant eliminates toxic emissions, increases reliability and efficiency, reduces sound and obscures carrier signature relative to conventional fuels. See col. 3, lines 14-34. The system and method for performing work comprises the steps of providing an impellant of hydrogen peroxide, decomposing the impellant, wherein the decomposition releases energy and directing

Art Unit: 1746

the released energy to perform work. Performed work includes mechanical, electrical and chemical work. The impellant acts as a fuel, propellant, and environmental conditioner. The impellant provides such products such as breathable oxygen at comfortable temperature, warm and cold potable water, electrical power, heat and the like. The performed work may be used on any mechanical device which may use pressure-volume work to function. These mechanical devices include, turbines, Stirling cycle engines, mechanical heat engines, lifts, presses, retractors, extenders and other applications of internal combustion engines and diesel engines. See col. 3, lines 40-59. The hydrogen peroxide may include additional components which include storage stabilizers or chemical reaction inhibitors known to those skilled in the art. See col. 4, lines 1-5. A holding tank containing a high strength hydrogen peroxide meters the hydrogen peroxide to a catalytic decomposition chamber through a valve. Within the catalytic decomposition chamber, the high strength hydrogen peroxide decomposes to superheated steam which comprises water vapor and oxygen. See col. 5, lines 43-47. Decomposition of the hydrogen peroxide within the catalytic decomposition chamber comprises at least one catalyst. See col. 5, lines 58-60. The superheated steam and oxygen is fed from the catalytic decomposition chamber into either a shipboard steam turbine or used directly for thrust vectoring. When used in the steam turbine, the energy in the water vapor is used to provide mechanical power, heat water or other fluids which drive a closed cycle heat engine. The steam turbine may provide amounts of power of from about 5000 HP and below. The steam may also be used to boil fluid in a closed cycle engine. The steam turbine is mechanically coupled to a propeller to provide shaft

Art Unit: 1746

work, such as propelling the vessel through the water. The steam turbine may also be attached to an axial power generator. The axial power generator provides power for electronics on board the vessel and other auxiliary power. The axial power generator may further provide power to an electric motor which provides shaft work for use in steering and/or maneuvering the vessel. The steam turbine further provides a source of oxygen. See col. 6, lines 3-28. In addition to feeding the steam turbine, the super heated steam is fed from the catalytic decomposition chamber into a thermoelectric or thermionic generator. The thermoelectric or thermionic generator provides DC power for use in direct current systems on board a vessel. Superheated steam is fed to the thermoelectric or thermionic generator at an appropriate decomposition temperature, the efficiency of which increases with an increase in temperature. See col. 6, lines 37-45. The patented invention includes a power system comprising an impellant of hydrogen peroxide, means for decomposing the impellant, wherein energy is released and means for producing work from the released energy. The power system provides released energy which provides mechanical, electrical and/or chemical work in the primary and auxiliary systems of mechanical devices, such as carriers, and/or environmental conditioning such as heat. As such, the hydrogen peroxide powers carriers or stationary devices without expending environmentally damaging waste from impellant residue. See col. 7, lines 5-15.

The prior art of Rusek et al does not disclose that the peroxide is solid.

Russell discloses an oxygen generating microencapsulated composition comprising a core material comprising an oxygen generating compound and a coating

Art Unit: 1746

comprising an acceptable wall forming polymer which is swellable in water, wherein the core material is an alkali metal superoxide or peroxide. See col. 2, lines 33-47. The encapsulation slows down the reaction of the alkali metal oxide with water, so that the exotherm heat created is less than that created by conventional methods. See col. 3, line 61 – col. 4, line 4. Besides potassium superoxide, other chemicals that release oxygen by reaction with water can be utilized such as alkali and alkaline earth metal peroxides, superoxides, trioxides, percarbonates and permanganates. See col. 4, lines 31-35 and 51-55.

The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the instant invention was made because even though the prior art of Rusek et al does not disclose the used of a solid impellant of at least one of a peroxide or a superoxide, it is shown in the prior art of Russell that solid impellants of peroxides and superoxides exist as a core material coated with a polymer to slow down the reaction of water with the peroxide or superoxide so that less exothermic heat is produced to prevent carbonate sludge from being formed and controlled release of the oxygen is obtained. Therefore, one having ordinary skill in the art would be motivated to use the controlled release system by using a solid impellant of a peroxide or superoxide in place of the liquid hydrogen peroxide to yield a system which is controlled with consistent release of oxygen and lower exothermic heat being produced rather than using a liquid which reacts extremely quick and is uncontrollable.

Therefore, the prior art of Rusek et al in combination with Russell render the applicants instant invention as obvious for the reasons set forth above.

Response to Arguments

3. Applicant's arguments with respect to claims 1-9, 12-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bruce F. Bell whose telephone number is 571-272-1296. The examiner can normally be reached on Monday-Friday 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on 571 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1746

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BFB
December 14, 2006


Bruce F. Bell
Primary Examiner
Art Unit 1746